GARY R. HERBERT
Governor
GREG BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0250005
TaskID: 4502
Mine Name: COAL HOLLOW
Title: IBC & HIGHWALL MINING ALTERNATIVE

General Contents

Violation Information

Analysis:

Information provided in the MRP Section 113 and Appendix 1-10 is current. The Permittee is in compliance with the requirements of R645-301-113.

pburton

Right of Entry

Analysis:

A mineral lease agreement with Richard Dame, Trustee of the Alecia Swapp Dame Trust, dated 10/23/2013, provides right of entry to 85.88 acres. The lease is Exhibit 5 in the Confidential Appendix 1-2. Details of coal and surface ownership, including the IBC, are provided in Section 112.500. The Permit Area Ownership table (p. 1-5) lists 721 acres in the permit area and 521 acres of fee coal to be mined. The surface ownership is illustrated on Dwg 1-3. The coal ownership is illustrated on Dwg 1-4. The permit area is illustrated on Dwg 1-1. Right of entry information found in Section 114 is complete.

pburton

Permit Term

Analysis:

Deficiencies Details:

Section 116 of the MRP describes three phases of mining that began in 2010 and is anticipated to be completed in 2017. Section 116 states that there are 394 acres total to be disturbed during all three phases of mining. Phase 1 is listed as 269 acres disturbance. Phase 2 is listed as 57 acres disturbance. Phase 3 is listed as 68 acres disturbance. The cover letter accompanying this submittal states that the acreage listed in Section 116 is consistent with the three phases shown on Dwg 5-3 (bonded acreage).

In accordance with R645-301-121, to accurately reflect the bonded acreage, the following changes should be made to the plan: 1)Section 116 should state that Phase 1 is 289 acres and Phase 2 is 40 acres (as shown on Drawing B-2 of the Revised Reclamation Agreement Exhibit D, signed 12/13/13), and
2) Phase 3 will correspond to the remaining acreage shown on Drawing 5-3 Phase 3; and,
3) Phase 2 shown on Drawing 5-3 must reflect the same area drawn as Phase 2 on Drawing B-2 of the Revised Reclamation Agreement Exhibit D (signed 12/13/13); and,
4) Drawing 5-3 must provide the bonded acreage figures in the legend for each phase of bonding.

pburton

Maps and Plans

Analysis:

Plate 3-7 needs to be revised to show the current phases of mining and proposed highwall mining activities.. The current plate is for a three year surface operation.

Deficiencies Details:

The information is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-140; Plate 3-7 needs to be revised to show the current phases of mining and the proposed highwall mining activities. The current plate is for a three year surface operation.

jhelfric

Environmental Resource Information

General

Analysis:

Sink Valley Wash runs north and south on the east of the permit area. There are several springs and agricultual ponds on the eastern boundary of the proposed permit area. The current and post mining land use is undeveloped rangeland (wildlife) and livestock pasture (grazing). Dame lands are actively flood irrigated or subirrigated. The information provided indicates a substantial area of subirrigated meadow and potentially irrigated pastureland east of the Tropic Shale Ridge in the existing permit area and IBC. The NRCS has determined that within the IBC there are 80 acres of Statewide and local Important Farmland, (2014 Incoming file, 1282014.4502.pdf)

The information on groundwater deptsh is summarized in Figures 13 and 14 of App. 7-7. Depth to groundwater in wells in the IBC area is between 3.5 feet below the surface to -9 ft. above the surface, indicating artesian flow (Fig. 13, App 7-7). Immediately east of the IBC area, artesian water rises an average of -15 ft. (above ground). Minimal seasonal variation in the wells within the permit area and in the artesian flow is presented in Fig 14, App. 7-7.

pburton

Permit Area

Analysis:

New maps (Ex 5-10A, Ex 5-38 and 5-38A) provided with the application extend the mining plan to 2017. Three phases of mining area described under bonding Section 830.140 of the application, corresponding to three phases of overburden removal shown on Plates 5-17, 5-18 and 5-19. The new permit boundary is also shown on Dwg 5-17, Dwg 5-18 and Dg 5-19 which are crucial to developing bonding numbers.

pburton

Climatological Resource Information

Analysis:

The MRP addresses climatic information and the change in drainage does not affect this information. However, climate is again addressed on page 3 of Appendix 7-14. The man factor of climate at the site is a total precipitation average of 16.4 inches. Temperatures average from 15.1 degrees Fahrenheit to 82.6 degrees Fahrenheit.

Soils Resource Information

Analysis:

Soils within the 85.88 acre incidental boundary change (IBC) were surveyed by Bob Long in 2007. Information on soil survey pits SP-52, SP-53 and SP-54 within the IBC is found in Appendix 2-2. Soil Survey Drawing 2-1 was extended into the Dame lease area based upon Data from these pits. The Table of Contents lists Appendix 2-3, 2014 soil survey report,

pburton

Land Use Resource Information

Analysis:

Grazing lands supported by numerous seeps and springs exist in the proposed IBC area as shown in Dwg 7-7 and described in Section 321.100. At the time of permit issuance, the Division estimated that there was 261 acres of meadow and pasture and that there was 69 subirrigated meadow acres .

Drawing 7-1 shows the total number of seeps and springs in the permit area available for grazing animals. Drawing 7-7 and Plate 5 show the ponds and ditches developed to support agriculture. Both Pugh and Dame own pastureland or subirrigated meadow lands within the permit area that have been leased to Alton Coal Development (Dwg. 3-1 and 7-7). These subirrigated lands are grazed to produce cattle, but are not cultivated to produce crops (Appendix 7-1, pg. 48). Pasture lands extend further south in Sink Valley, but these lands in Section 32 have not been mapped.

Pasture lands in the west and central portions of the permit area, dominated by introduced grass species, rely on precipitation and stored soil moisture for growth (average approximately 16 in/yr) and not on irrigation or subirrigation (App. 7-7, pg. 12; App. 7-1, pg. 48). On the east side of the permit area, Dame retains water for flood irrigation by the active water rights on Pond 29-3 and 29-5 (Dwg 7-7). Much of the Dame property is subirrigated and apparently needs no supplemental irrigation.

Most spring and surface-diversion rights in the W/2 of Sec. 29, E/2 of Sec 30, and W/2 of Sec. 32, T. 39 S., R. 5 W., along Sink Valley Wash around and downstream of the Swapp Ranch, either cover both stockwatering and irrigation or are for irrigation only. Ponds are used for stockwatering and irrigation systems (App. 7-7, pg. 14).

Within the permit area there is one spring (SP-7) with a domestic water right (Pugh, water right 85-215), located right along the fence between Pugh's and Dame's properties (Dwg. 7-3). Adjacent to the permit area, there are two springs (SP-3 and SP-10B) with a domestic water right: Sorensen, water right 85-373 and Johnson, water right 85-1011, respectively.

pburton

Land Use Resource Information

Analysis:

ACD needs to include a commitment in Chapter 4, section 411.140 of their current MRP to conduct a presite survey of the proposed 500 foot disturbance associated with the trench and any additional disturbances associated with the development of the proposed highwall mining activity.

Deficiencies Details:

The information is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-411.140; ACD needs to include a commitment in Chapter 4, section 411.140 to conduct a presite survey of the proposed 500 foot disturbance associated with the trench and any additional disturbances associated with the development of the proposed highwall mining activity.

jhelfric

Prime Farmland

Analysis:

The NRCS has made a determination that 80 acres of the 85.88 acre IBC are considered Farmlands of Statewide and Local Importance (Incoming, 1282014.4502.pdf). Dame holds water rights from springs to irrigate 93 acres. Much of the Dame property is subirrigated and no supplemental irrigation system has been noted. Table 2, App. 7-7 indicates depth to ground water in soil pits was between one and six feet on the eastern side of the permit area allowing for sub-irrigation of Dame's meadows and pastures. Both subirrigated and flood irrigated areas are outlined on Plate 7-7.

Pond 29-3 on Richard Dame's property is fed by groundwater from an alluvial spring. Surface water collects downstream in pond 29-5, also on the Dame property (pg. 14, Sec. 4.2, App. 7-7). App. 7-7 Sec. 4.1 relates that ponds 29-1 and 29-2, as well as the ponds 29-6, 29-4, 29-7, 29-8, 29-9 [that function as a series of overflow ponds down the Sink Valley drainage] and pond 32-1 are all on Sorenson property.

A discussion of the infrared imagery taken in July 15, 2006 and November 15, 2007 is provided in Section 8.1 of the Peterson Report included as an Appendix to Chapter 7. The Division has compared the infrared imagery in Plates 3 and 4 and concludes that adequate soil moisture is present during the growing season to provide subirrigation for pasture in R. 5 W. T. 39 S. Sections 20 and 29. The growing season at this 6,900 ft. elevation averages 110 frost free days, with the last frost occurring on or about June 5 and the first frost occurring on or about September 24, according to Kevin Heaton, USU Extension Service (personal communication on 10/15/2009).

East of the permit area, the flows from Right Hand Wash, Swapp Canyon Creek, and Sink Valley Wash provide the Sorensons with the water rights to irrigate approximately 143 acres in the W ½ of Sections 29 and 32 and stockwater for 300 units. (App. 7-3, Water Rights). Ex. 4-1 illustrates the permit area and defines ninety acres of crop land to the east of the permit boundary.

The Natural Resources Conservation Service evaluated the soils of the permit area for prime farmland status in the fall of 2006. The NRCS concluded that there were no prime farmland soils in the permit area, however soils on slopes less than 14 percent could qualify as Soils of Statewide Importance, if irrigated (Appendix 2-1, Tab 6 and M:0250005\2006\Incoming\0011.pdf).

The MRP indicates that the terrain is suitable for irrigation, but that irrigation is not required to produce meadowlands and pasture. When available, irrigation doubles yield. Water quality data indicate that there may be enough water to flood irrigate; that the quality of water from shallow alluvial groundwater is sufficient to raise alfalfa or other grasses for hay crops and pasture. Groundwater from the deeper portions of Sink Valley to the east in Section 32 are part of a larger, more continuous groundwater system" that is of better quality than the shallow groundwater (Pg. 7-8 Chapter 7.)

The Division has completed the required consultation with the NRCS (R645-302-313) and is in agreement with their determination that 80 acres of Statewide and Local Important Farmland are within the IBC, Dames lease, permit area.

Deficiencies Details:

In accordance with R645-301-121.100, Section 221 of the MRP must be revised to state that the NRCS has made a determination that 80 acres of the 85.88 acre IBC Dame lease are considered Farmlands of Statewide and Local Importance. A copy of the referenced letter should be included in Section 1 of Appendix 2-1 with the previous NRCS correspondence.

pburton

Hydro Baseline Information

Analysis:

The Dame lease is included within the existing MRP's baseline information. In addition, the Coal Hollow Mines operational monitoring locations include many of the sights within the Dame Lease area so a good foundation of data exists for the area.

khoffman

Hydro Baseline Cumulative Impact Area

Analysis:

The Dame lease is within the original baseline cumulative impact area of the MRP.

khoffman

Hydro Probable Consequences Determination

Analysis:

The amendment includes Appendix 7-14 PHC of Coal Mining in the 85.88-acre New Dame Lease IBC at the Alton Coal Development, LLC Coal Hollow Mine (Dame PHC). The Dame PHC describes the geology of the area, from top to bottom, as the Quaternary Deposits (alluvium), Tropic Shale, and Dakota Formation. The alluvium contains the groundwater of the area while the Tropic Shale acts as a confining layer. The Dakota Formation contains the economic coal seam.

The Dame PHC is important as the Dame Lease contains substantially different groundwater characteristics then the existing Coal Hollow Mine. The differentiating characteristic of the Dame Lease is the presence of artesian flow as described on page 7 of the Dame PHC:

“By this mechanism, artesian flow conditions are created in the deep, coarse-grained alluvial groundwater systems present in portions of Sink Valley. Artesian flow conditions are not present in regions further to the west where only thin, predominantly fine-grained alluvial deposits are present. Within those portions of Sink Valley where the deeper, coarse-grained sediments support artesian groundwater flow conditions, flowing artesian wells are present (including wells near the new Dame Lease IBC including Y-l02,Y-61, C5-130, and the Coal Hollow Mine water production well). Springs and seeps are also supported by discharge from the alluvial groundwater system (including monitored springs near the new Dame Lease IBC area including SP-8, SP-14, SP-l6, SP-l9, SP-20, SP-22, SP-23, and Sorensen Spring)”

This area is displayed on Figure 16 of Appendix 7-1 of the MRP. In addition, the Dame Lease has documented the flowing of groundwater (Drawing 7-13), and the presence of surface ponds and irrigation ditches (Drawing 7-7).

The Dame PHC determines “Appreciable adverse impacts to the hydrologic balance either on or off the permit area are not expected to occur as a result of the proposed highwall mining at the Coal Hollow Mine (including the 85.88 acre new Dame Lease IBC).” This determination is supported by evidence that surface disturbance is not anticipated and that subsidence will be prevented. In addition, the considerable thickness of low-permeability Tropic Shale bedrock could likely stop hydraulic communication with the permeable overlying alluvial groundwater system.

The Dame PHC does acknowledge that it is possible groundwater will enter the highwall mining holes. The Dame PHC describes that groundwater at Y-36 and Y-48 may be in hydraulic communication with overlying alluvial groundwater. It also describes that if highwall mining holes intersect an open borehole or improperly abandoned well there would be potential for flow from the overlying groundwater.

These potentials for groundwater impacts are described as by the PHC author as being temporary as any draining of groundwater would deplete the quantity of water present in the alluvial groundwater system. The Dame PHC also says impacts could be minimized by backfilling mining holes with low-permeability materials and avoiding mining where historic borehole locations are present. Last, highwall mining holes excavated within the new Dame Lease will slope downward so unless a large volume of water were intercepted (enough to fill the entire void of the highwall hole), then gravity mine water discharge would not occur.

The Dame PHC then discusses utilizing the monitoring data to detect or quantify potential mining-related impacts and it is necessary to evaluate all factors relevant to prevailing hydrologic conditions in particular climatic variability. In addition, other factors such as grazing practices, land use and range conditions should be evaluated.

The Dame PHC also examines impacts to surface water quality but because there will not be surface disturbances in the Dame Lease these are minimized.

The Dame PHC only addresses highwall mining and does not address in any form strip mining or underground mining in the Dame Lease area. In addition, Appendix 1-2 Exhibit 5 in the right of entry expresses: "However, Mining Operations involve only the coal that can be mined by the underground or auger method of coal mining. No surface mining may take place on the Leased premises." For these reasons the amendment must expressly state that only highwall mining is permitted in the Dame Lease. Section 112.500 addresses this by stating that the Dame Lease (IBC) will only be mined by high wall mining.

khoffman

Hydro GroundWater Monitoring Plan

Analysis:

The MRP groundwater baseline monitoring plan was sufficient to establish baseline monitoring data in the original MRP.

khoffman

Hydro SurfaceWater Monitoring Plan

Analysis:

The MRP surface water baseline monitoring plan was sufficient to establish baseline monitoring data in the original MRP.

khoffman

Maps Monitoring and Sampling Locations

Analysis:

Baseline monitoring locations are shown on Drawing 7-2.

khoffman

Maps Subsurface Water Reources

Analysis:

Subsurface water rights are shown on Drawing 7-3, seeps and springs are shown on Drawing 7-1, well locations are shown on Drawing 7-12, and potentiometric levels in the alluvial groundwater system are shown in Drawing 7-13.

khoffman

Maps Surface Water Resource

Analysis:

Surface water rights are shown on Drawing 7-3. Ponds and irrigation areas are shown on Drawing 7-7.

khoffman

Maps Vegetation Reference Area

Analysis:

The meadow reference area is within the IBC permit area. A commitment in the plan on page 3-1 states that the reference area will be relocated in 2014 in consultation with the Division.

pburton

Operation Plan

Mining Operations and Facilities

Analysis:

Regulatory requirement R645-301-553 requires that in a coal stripping operation, backfilling and grading operations are required to follow coal recovery (from each pit/PHH) by no more than 60 days or 1,500 linear feet. Task ID # 4505 is requesting a variance to the requirements of -301-553 in order to implement another method of coal recovery (highwall mining). The submitted proposal states that coal recovery will be completed in the 4 panels off Pit 9 by July 25, 2014. This is based on the accuracy of the highwall miners delivery schedule, a two to three week assembly schedule, and the experience of ACD in the operation of this new mining method.

R645-301-553 makes referral to R645-301-542.200 as having the need to be re-addressed in order for the Division to approve a variance in the requirements of R645-301-553.
R645-301-542.200 requires a plan for the backfilling, soil stabilization, compacting and grading with contour maps and cross sections that depict the final surface configuration of the permit area (specifically Pit 9 / PHH) . These requirements have been addressed in the approved Mining and Reclamation Plan (See Volume 3, Chapter 5, section 542, page 5-59, NARRATIVE, DRAWINGS AND PLANS, regulatory sections -542-100 through -542-600 Plan and Timetable of the Coal Hollow Mine MRP).
There are no changes proposed to the approved plan relative to AOC restoration, grading, soil placement, soil stabilization or re-vegetation of Pit 9. Only the timing of these activities is to be extended beyond the 60 day requirement to allow for the highwall coal recovery to occur off of the east side of Pit 9.
Task ID # 4505 contains Plate 5-10B, which shows the layout for the coal recovery in the remainder of the permit area. Highwall mining will also be used to recover the reserves from Panels 1-20, which are shown to exist in the south end of the permit area. Overburden material and the coal reserves in Pits 26, 27, and 28 will be recovered using the dozer, shovel and off-highway trucks shown of Plate 5-10B.

phess

Air Pollution Control Plan

Analysis:

Section 422 Utah Bureau of Air Quality Section 422 of the MRP states that an NOI was filed with UDAQ on August 22, 2013 to include the highwall miner on the list of equipment in the Approval Order DAQE-AN0140470002-10. The Permittee is in compliance with R645-301-422.

pburton

Subsidence Control Plan Performance STD

Analysis:

As defined by the R645 Coal Mining Rules, highwall mining or auger mining is not underground mining and therefore, underground mining rules (R645-301-525.400 through 700) do not apply. Auger mining is subject to compliance with R645-302-245.300, Subsidence Protection, which requires that auger mining be conducted in accordance with the requirements of R645-301-525.210 and 525.230 to prevent material damage to water supplies and public buildings.

Section 525 of the application states that the mining method as described in App. 5-8 will have non yielding barriers and abutments and no subsidence is projected. Section 525 also states that in accordance with the Dame lease agreement, the Permittee will be responsible for damage to permanently used structures desigated as such before mining by the Lessor; and, the Permittee has the option of a pre-mining survey of those designated structures (Article 7 Section 7.03). The nearby structures are shown in relation to the permit boundary on Drawings 1-5 and 1-6. The application is in compliance with R645 Coal Surface Mining Rules.

pburton

Fish and Wildlife Protection and Enhancement Plan

Analysis:

The proposed addition of 85.88 acres is substantial year -long Black Bear, high value summer elk and deer habitat and Sage Grouse nesting, brood rearing and breeding (established lek) habitat. The proposed mining methods and associated activities, (Highwall Auger), will impact the grouse within the lek and nesting and brood rearing areas and beyond the proposed addition of the 85.88 acre parcel. The proposed mining activities could also potentially impact the ground water that currently feeds the wet meadows located in the parcel of land and in turn the wildlife species that utilize the area. One of the more critical impacts would be to the sage grouse chicks that are 100 % dependent on insects which the wet meadows provide.
The proposed activity is also located at the core of the 1mile buffer for breeding and 3 mile buffer for nesting and brood rearing Sage-grouse. Research shows that disturbances from man caused activities and surface disturbances will eventually (4years) result in loss of the birds.

"High site fidelity but low survival of adult sage-grouse combined with lek avoidance by younger birds (Kaiser 2006,Holloran et al. 2007) resulted in a time lag of 3–4 years between the onset of development activities and lek loss

(Holloran 2005). The time lag observed by Holloran (2005) in the anticline matched that for leks that became inactive 3–4 years following intensive coal-bed natural gas development in the Powder River Basin (Walker et al. 2007a)".

A ratio of 4:1 compensatory mitigation is required to account for disturbances as defined in the Division of Wildlife Resources State Conservation Plan for Greater Sage-grouse approved on February 14, 2013. "Disturbance is any ground disturbing activity, event or action, natural or human caused, which will either eliminate or render greater sage-grouse habitat unusable for the life cycle of the bird, or human activities and presence which causes a negative response from birds within the SGMA. Disturbance based on ground disturbing activities can temporary or permanent, while negative response disturbances can cause negative effects year-round, seasonally, or only certain times of day.

BACKGROUND

From a historical perspective the majority of the birds (12 males) have established an alternate lek approximately 1.25 miles west of the historic lek where the mining activities are proposed. The new lek and brood rearing areas (wet meadows) are currently fragmented by the open pit surface mining activities. Drawing 3-5 shows the sage grouse nesting and brood rearing habitat in relation to where the current mining activities are located. There have been sightings of three males on the historic Lek in early April of 2013. However that was prior to the advancement of mining activities and surface disturbances through the area at the peak of the breeding season in 2013. There has also been a sighting of a chick in the wet meadow area in 2013.

The current Mitigation plan for Sage- grouse was developed under the assumption that mining activities would pass through the lek during the second year of mining outside the active lekking period and the area would be reclaimed prior to the following breeding season. Mining activities through the lek occurred at the peak of the lekking period during the third year of mining (April, 2013).

The original plan was also intended to mine in one direction passing through the lek and re-establishing the lek prior to the following lekking period. The mining sequence changed in April of 2013 resulting in surface disturbance and mining activities occurring in two directions towards the lek with a connecting haul road and diversion ditch. The current proposal includes continuous mining activities within the lek and nesting and brood rearing areas for an undetermined amount of time followed by additional surface development for underground mining indefinitely.

The application needs to include a noise level monitoring program for the new mining equipment that will be used to implement the proposed highwall mining activities.

Given the current set of circumstances additional mitigation for disturbances to Sage-grouse and their habitat from mining and associated mining activities is required.

The impacts to wildlife from the extended mining activities are not adequately addressed in chapter three of the current Mining and Reclamation Plan, (MRP). The following information is required:

During the meeting on January 7, 2014 ACD agreed to provide a commitment to restore the wet meadow habitat, the location is shown on drawing 3-1(Meadow). The application needs to include a commitment to restore the wet meadow habitat in the 85.88 parcel in the event of habitat loss due to water diminution. This commitment has not been included in the application,

A table that includes a schedule to initiate compensatory mitigation of 343.52 acres for the addition of the 85.88 acre parcel by no later than August 1, 2014 and have it completed within six months or by January 31st 2015.

A commitment to monitor the vegetation and bird use in the 85.88 acre parcel.

Chapter 3, Page 3-3 and 3-41 have been updated to include a commitment to establish a reference area during the growing season of 2014.

Chapter 3, Page 3-7, the last sentence needs to include the word "surface" before disturbance.

Chapter 3, Page 3-34 ACD needs to provide valid documentation that defines the amount of acreage of the 808 acres they have been given credit for by the Division and this sentence needs to be revised to reflect that.

Chapter 3, Page 3-34 ACD needs to provide written concurrence from the surface management agency, (BLM), verifying the completion of the lop and scatter pinyon/juniper removal from the 355 acre parcel.

Page 3-44, Sage-Grouse Work, Sentence #4 needs to be revised to read as follows “The implementation of the highwall miner provides an additional method for recovering coal”. This is because the disturbance associated with the development of the 500 foot wide trench (Figure 5-41) will be located in the middle of the lek and nesting and brood rearing areas for an undetermined amount of time and perhaps indefinitely with the addition of underground mining.

In accordance with R645-301-333.300 the application needs to include a monitoring plan for the noise levels in the proposed 85.88 parcel from the mining equipment that will be used to implement the proposed highwall mining activities.

Deficiencies Details:

The impacts to wildlife from the extended mining activities are not adequately addressed in chapter three of the current Mining and Reclamation Plan, (MRP). Prior to approval the following information must be provided;

In accordance with R645-301-333.300.During the meeting on January 7, 2014 ACD agreed to provide a commitment to restore the wet meadow habitat, the location is shown on drawing 3-1(Meadow). The application needs to include a commitment to restore the wet meadow habitat in the 85.88 parcel in the event of habitat loss due to water diminution. This commitment has not been included in the application,

In accordance with R645-301-322.200, .220, 342.100, 358.400 a narrative describing how springs SP-8, SP-14, SP-20, SP-22, SP-40 and wells C4, C2, C3, C5, and Y-61 that sustain the critical brood rearing habitat will be restored in the event of water diminution,

In accordance with R645-301-322.100 a table that includes a schedule to initiate compensatory mitigation of 343.52 acres for the addition of the 85.88 acre parcel by no later than August 1, 2014 and complete the mitigation within six months or by January 31st 2015,

In accordance with Chapter 3, Appendix 3-5 and R645-301-333.300 a commitment to monitor the vegetation and bird use in the 85.88 acre parcel for vegetation (annually) and bird use (monthly except for May, June and July),

In accordance with R645-301-121.200 Chapter 3, Page 3-7, the last sentence needs to include the word surface before disturbance.

In accordance with R645-301-322.100 Chapter 3, Page 3-34 ACD needs to provide valid documentation that defines the amount of acreage of the 808 acres they have been given credit for by the Division and this sentence needs to be revised to reflect that,

In accordance with R645-301-322.100 Chapter 3, Page 3-34 ACD needs to provide written concurrence from the surface management agency, (BLM), verifying the completion of the lop and scatter pinyon/juniper removal from the 355 acre parcel,

In accordance with R645-301-330Page 3-44, Sage-Grouse Work, Sentence #4 needs to be revised to read as follows The implementation of the highwall miner provides an additional method for recovering coal. This is because the disturbance associated with the development of the 500 foot disturbance associated with the trench (Figure 5-41) will be located in the middle of the lek and nesting and brood rearing areas for an extended period of time and perhaps indefinitely with the addition of underground mining.

In accordance with R645-301-333.300 the application needs to include a monitoring plan for the noise levels in the proposed 85.88 parcel from the mining equipment that will be used to implement the proposed highwall mining activities.

jhelfric

Topsoil and Subsoil

Analysis:

The additional 85.88 acres in the IBC Dame lease will be highwall mined, with no disturbance to the surface soils. The plan for live haul of soil from surface disturbed areas (mining trenches, pits, roadways remains unchanged. Section 231.100 of the MRP refers to Dwg 2-2 for topsoil handling plans. The progressive topsoil removal plan is shown on Dwg 2-2 for the surface mining scenario. The soil will be removed following guidance shown on Dwg 2-1 for each soil map unit.

Deficiencies Details:

R645-301-121.100 and R645-301-231.100, Please provide a version of Dwg 2-2 for the highwall mining scenario shown in Dwg 5-10A.

pburton

Hydrologic Ground Water Monitoring

Analysis:

The MRP addresses a groundwater monitoring and proposes monitoring springs SP-8, SP-14, SP-20, SP-22, SP-40; wells C4, C2, C3, C5, and Y-61; and surface water locations SW-6 and SW-9 all on a quarterly basis. In addition, the springs and wells listed above will be monitored for flow or water level weekly starting one month prior to undermining and continuing until one month after undermining at which time they will be monitored monthly for six months before returning back to their normal monitoring schedule. In addition, the Permittee will monitor daily water flowing from the high wall mine holes. Details of this accelerated monitoring are located on page 7-61 of the amendment.

khoffman

Hydrologic Gravity Discharge From Underground Mine

Analysis:

The Dame PHC describes, although unlikely, the potential for gravity discharge from the highwall mining holes. However, if it does the Division is requiring a daily flow measurement as part of the groundwater monitoring plan.

khoffman

Maps Affected Area

Analysis:

Deficiencies Details:

Two mining methods have been proposed. Under the surface mining method the affected area is shown on Dwg 5-2 disturbance sequence and 5-16 overburden removal map and the reclaimed area is shown on Dwg 5-38 reclamation sequence. For the highwall mining method, the pertinent maps are Dwg 5-2A, 5-16A, and 5-38A. To provide clarity, actual disturbance and reclamation should be provided in an asbuilt submitted with the annual report.

In addition, Drawings 5-2A , 5-16A , and 5-38A appear to align the highwall mine trench along the Section 30 and Section 29 boundary line; whereas the trench is shown centered in Section 30 on Drawings 5-10A and 5-10B. If the trench is constructed with the trench floor as shown in Dwg. 5-10A and 5-10B, then the area disturbed by topsoil & overburden removal and reclamation will be slightly different than that shown on Dwg 5-2A, 5-16A and 5-38A.

Due to the above ambiguity , the following commitment will be required. In accordance with R645-301-521.162 and R645-301-121.100, Please state a commitment in the plan to provide an as-built of the reclamation sequence map (Dwg. 5-38 and/or 5-38A) filed with the annual report each year and include on the as-built map and in the legend:
The acres of open pit and trench;
The acres backfilled;
The acres covered with subsoil.
The acres fully reclaimed (topsoiled and seeded);
Revisions to the reclamation timetable, if any.
The map should be accompanied by a C1C2 form to allow replacement of the existing Dwg. 5-38 or 5-38A in the MRP.

pburton

Maps Facilities

Analysis:

Mine Workings Maps
Drawings 5-10 (approved in MRP), Drawing 5-10A, (Task ID #4502) , and 5-10B (Task ID #4505) all depict the Pit numbers or sequence of coal recovery at the Coal Hollow Mine. 5-10 shows that all Pits will be strip mined, using dozers, shovels and trucks. Pits 26, 27 and 28 have mined dimensions of 970' X 250'.
Drawing 5-10A (Task ID 4502) depicts Pit 11 as the face up pit for the highwall mining of Panels 21, 22, 23 and 24 (coal recovery east of Pit 11) . The east face of Pit 11 is 20 feet from the centerline of HWT 5, and HWT 5 is shown as having a 150' width. Strip pits 26, 27 and 28 are all 950' long and 250' wide.
Drawing 5-10B (Task 4505) depicts Pit 9 as the face up for the highwall mining of Panels 1, 2, 3, and 4. The east face of Pit 9 is 500' from the center of HWT (high wall trench) 5.
HWT trenchs are all depicted as being 150' in width at the coal seam. Drawing 5-41, Typical Trench Detail for Highwall Mining shows that each highwall on both sides of the HWT 1-5 will be laid back to 1 to 1 slopes have at least two 40' wide benches. All Drawings are P.E. Certified by Dan W. Guy.
Drawings 5-10A and 5-10B have several differences including the proposed recovery sequence or numbering of how the mining area will be stripped or highwall mined. This appears to be a deficiency because the maps are not identical, but it is not. The Permittee must have the flexibility to move about the permit area if needed to recover coal based on preparedness of the next mining area, break downs, geologic conditions, etc., so production volumes can be met.

phess

Maps Mine Workings

Analysis:

Deficiencies Details:

In accordance with R645-301-121.100, plates 5-16 and 5-16A must be in agreement on the area of overburden removed in the past year, 2013.

In accordance with R645-301-121.200, please review and correct as necessary the year shown for overburden removal on the northeast corner of Section 30, because the area shown in pink will either have overburden removed in 2016 (according to the legend) or in 2015 (according to the year written in the pink area).

In accordance with R645-301-553, both plates 5-38 and 5-38A must illustrate compliance with the backfilling and grading rule for surface mining with regard to pits 9 and 10. Pit 9 was mined out in September of 2013 and pit 10 is shown on both Plate 5-10 and Plate 5-10A as being developed in 2014. Therefore, Dwg 5-38 and 5-38A must show reclamation of the pit 9 & 10 area in 2014 and 2015 respectively.

In accordance with R645-301-122.100, please review the active pit location shown on Dwg.5-19, as it does not appear to reflect either reclamation scenario illustrated on Dwg 5-38 or 5-38A.

phess

Maps Monitoring and Sampling Locations

Analysis:

Water monitoring locations are shown on Drawing 7-10.

khoffman

Reclamation Plan

General Requirements

Analysis:

The redline text on page 3-57A, The Alternate hlghwall mining will reduce the practicable area to be reclaimed, does not describe how and when the highwall mining activity will be reclaimed. As previously stated the application does not include a description of or provide for the reclamation of the proposed highwall mining method.

The application needs to include at a minimum:,

A narrative describing how the highwall mining disturbance will be reclaimed, including a reference to maps 5-2, 5-16, 5-38, 5-2A, 5-16A and 5-38A
Where the material for backfilling and grading will come from,
A narrative describing the volume of different materials including topsoil that will be needed for reclamation of the highwall and 500 foot disturbance associated with the trench,
A revised time table for reclamation,
And a commitment to meet with the Division each year in August to determine how much reclamation will need to be completed for that calendar year.

Deficiencies Details:

The information is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-322, -301-323, -301-331, -301-333, -301-341, -301-342- and 301-521
The redline text on page 3-57A, The Alternate hlghwall mining will reduce the practicable area to be reclaimed, does not describe how and when the highwall mining activity will be reclaimed. As previously stated the application does not include a description of or provide for the reclamation of the proposed highwall mining method.

The application needs to include at a minimum in accordance with R645-301-521:,
A narrative describing how the highwall mining disturbance will be reclaimed,
Where the material for backfilling and grading will come from,
A narrative describing the volume of different materials including topsoil that will be needed for reclamation of the highwall and 500 foot disturbance associated with the trehch trench,
A revised time table for reclamation in accordance with R645-301-341.100,
And in accordance with R645-301-352 a commitment to meet with the Division each year in August to define the amount of reclamation to be completed for that calendar year.

jhelfric

Revegetation Timing

Analysis:

Section 341.100 Reclamation Timetable was the subject of DO-13 which was approved January 24, 2014. This amendment does not include the wording changes made to Section 341.100 approved by DO #13.

The reclamation timetable is shown on Dwg. 5-38. This amendment does state that the alternate highwall scenario will reduce the area of surface disturbance and thus the area to be reclaimed as shown Dwg 5-38A.

Deficiencies Details:

Clean copies of this amendment must be revised to include the wording changes made to Section 341.100, approved January 24, 2013 (Task 4463, DO-13).

pburton

Bonding Form of Bond

Analysis:

Alton Coal Development, LLC changed the surety for the currently posted amount of $ 10,000,000.00 from the Lexon Insurance Company to Ironshore on December 13, 2013. Ironshore has an A.M. Best rating of "A". Ironshore meets the requirements of R645-301-860.110.

phess

Special Categories

Auger Mining

Analysis:

The Coal Hollow Mine application was approved and a Decision Document was signed on October 19, 2009. The permit was issued on November 8, 2010. The mining plan sequence has been amended several times since. The last approval for a mining sequence change was in April 19, 2013, Task 4323.

This incidental boundary change (IBC) application for 85.88 acres of fee coal continues the pit sequence of mining from South to North and West to East as described in April 2013 for the existing permit area, but also adds an auger mining scenario in the IBC that would develop highwall mining from pit 11 (Dwg 5-10A) or more likely from existing pit 9 (Dwg 5-10B, received in response to NOV 10135 on February 4, 2014 and under review as Task 4505). The latter alternative would eliminate pits 10 - 15.

The highwall mining scenario under review with Task 4502 will eliminate pits 12-15 and 16 - 24. [(Pit 25 has been stripped of topsoil. Although not shown on Dwg 5-10A, Pit 25 development is likely.)] The highwall mining plan will replace pits with a trench of the dimensions shown in Dwg. 5-41. The working area of the trench will be 150 wide, but the total surface disturbance for the trench will be 510 ft wide due to set backs from the face. The length of the trench is shown as 2,500 ft. long. Backfilling and grading of 1500 linear feet will apply (R645-301-553).

The highwall mining method is described in Section 528.200 and Section 553. The panel detail for highwall or auger mining is shown in Drawings 5-42, 5-43, 5-44 for varying depths of overburden. Panels would be developed on the east and west face of the trench as shown in Dwg 5-10A. A comparison of coal recovery under the highwall scenario with the recovery under pit development is provided in Dwg 5-9 and 5-9A.

Deficiencies Details:

In accordance with R645-301-121.200, please update Dwg 5-10 to show the as-built size and location of pits 25 - 28.

pburton

Auger Mining

Analysis:

Page 7-61 states:
"As specified in R645-302-240, all auger holes not discharging water containing acid- or toxic forming material will be sealed with an impervious noncombustible material as contemporaneously as possible with the augering operation, as approved by the Division."

The term "as possible" leaves too much leniency and R645-302.240 requires all holes be sealed within 72 hours except as allowed by the Division under R645-302.245.230.

Deficiencies Details:

R645-302.240: The language on Page 7-61 shall be updated stating "All holes except as provided in R645-302.245.230 will be sealed within 72 hours" and the follow language shall be removed:
"As specified in R645-302-240, all auger holes not discharging water containing acid- or toxic forming material will be sealed with an impervious noncombustible material as contemporaneously as possible with the augering operation, as approved by the Division."

khoffman

CHIA

CHIA

Analysis:

The permit boundary for the CHIA will need to be updated in Plates 1 through 3 before approval. As well the CHIA will need to be updated to incorporate the possibility of highwall mining being conducted.

khoffman